

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| | | |
|--|---|---|
| Applicant's or agent's file reference 285/03306 | FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. | |
| International application No. PCT/IL 02/01037 | International filing date (day/month/year) 25/12/2002 | (Earliest) Priority Date (day/month/year) |
| Applicant PROTEOPTICS LTD. | | |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☒ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 02/01037

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N21/55 G01J3/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N G01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|---|
| X | US 6 268 125 B1 (PERKINS ELAINE A) 31 July 2001 (2001-07-31) | → 27 — NO |
| Y | column 2, line 62 - column 3, line 7 | → 1, 14, 27 |
| A | column 4, line 38 - line 67; figures 1-3 | 13, 15, 17, 22, 23, 26, 29, 44 |
| Y | --- US 6 008 893 A (ROOS HAEKAN ET AL) 28 December 1999 (1999-12-28) column 4, line 25 - column 5, line 41; figure 2 --- -/- | → 1 |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

23 December 2003

Date of mailing of the international search report

14. 01. 04

Name and mailing address of the ISA

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Authorized officer

Stuebner, B

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 02/01037

| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|--|--------------------------------|
| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| A | US 5 313 264 A (SJOELANDER STEFAN ET AL) 17 May 1994 (1994-05-17) cited in the application column 8, line 25 -column 9, line 63 column 13, line 51 -column 17, line 49; figures 1,13-16 --- | 1,11,14, 27,44 |
| A | WO 02 063349 A (RES INT INC ;SAASKI ELRIC W (US)) 15 August 2002 (2002-08-15) page 19, line 2 - line 31; figures 14,15 --- | 1 |
| A | BERGER C E H ET AL: "SURFACE PLASMON RESONANCE MULTISENSING" ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY, COLUMBUS, US, vol. 70, no. 4, 15 February 1998 (1998-02-15), pages 703-706, XP000738807 ISSN: 0003-2700 cited in the application figure 1 --- | 1,11,14, 27,44 |
| A | US 6 326 612 B1 (CARR RICHARD A ET AL) 4 December 2001 (2001-12-04) column 2, line 59 -column 3, line 8; figure 2 --- | 1,14,27 |
| Y | US 5 917 607 A (NAYA MASAYUKI) 29 June 1999 (1999-06-29) column 6, line 19 -column 7, line 49; figures 2,4 --- | ⇒ 14,27 |
| A | US 5 917 607 A (NAYA MASAYUKI) 29 June 1999 (1999-06-29) column 6, line 19 -column 7, line 49; figures 2,4 --- | 1,13,15, 17,22, 23,26,29 |
| Y | WO 01 86262 A (HOFMANN ANDREAS ;JANDRATEK GMBH (DE)) 15 November 2001 (2001-11-15) page 5, paragraph 5 -page 8, paragraph 5; figures 1-4 --- | → 14,27 |
| A | WO 01 86262 A (HOFMANN ANDREAS ;JANDRATEK GMBH (DE)) 15 November 2001 (2001-11-15) page 5, paragraph 5 -page 8, paragraph 5; figures 1-4 --- | 1,15,17, 22,23, 26,34,37 |
| A | WO 99 30135 A (PERKIN ELMER CORP ;TRACY DAVID H (US); WANG YONGDONG (US); BAHATT) 17 June 1999 (1999-06-17) page 14, paragraph 3 -page 15, paragraph 2 page 20, paragraph 2; figures 1-3 --- | 1,13,14, 18,19, 22,23,27 |
| A | LOFAS S ET AL: "BIOANALYSIS WITH SURFACE PLASMON RESONANCE" SENSORS AND ACTUATORS B, ELSEVIER SEQUOIA S.A., LAUSANNE, CH, vol. B05, no. 1 / 4, 1 August 1991 (1991-08-01), pages 79-84, XP000265940 ISSN: 0925-4005 page 79, column 2, paragraph 2 -page 81, column 1, paragraph 2 --- | 1,14,27, 40-43 |
| | --- | |

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 02/01037

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| A | WO 00 22419 A (SCHWOTZER GUENTER ;PFEIFER PETER (DE); HOPPE LUTZ (DE); ANALYTIK J) 20 April 2000 (2000-04-20) page 6, line 4 -page 7, line 22; figures 1-6 ----- | 1,14,25, 27,29 |

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-13, 40-44 (part.)

Claim 1:

An SPR sensor comprising:
a thin conducting layer...;
an illumination system...;
a photosensitive surface...;
a flow cell...; and
at least one hollow needle...

2. Claims: 14-26, 40-44 (part.)

Claim 14:

An SPR sensor comprising:
a thin conducting layer...;
a photosensitive surface...;
a flow cell...; and
an illumination system, which system further comprises
- a collimator...; and
- a light source controller...

3. Claims: 27-44

Claim 27:

An SPR sensor comprising:
a thin conducting layer...;
an illumination system...;
a photosensitive surface...; and
a flow cell...(the wall of the flow cell not being specified
as in Claim 1).

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL 02/01037

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL 02/0337

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|----|---------------------|---|--|
| US 6268125 | B1 | 31-07-2001 | AT 239911 T AU 737114 B2 AU 4875297 A CA 2271886 A1 CN 1244919 A DE 69721808 D1 DK 938661 T3 EP 0938661 A1 WO 9822808 A1 JP 2001504582 T KR 2000053341 A NO 992326 A TW 400432 B US 2002016011 A1 ZA 9709734 A | 15-05-2003 09-08-2001 10-06-1998 28-05-1998 16-02-2000 12-06-2003 25-08-2003 01-09-1999 28-05-1998 03-04-2001 25-08-2000 16-07-1999 01-08-2000 07-02-2002 22-05-1998 |
| US 6008893 | A | 28-12-1999 | AU 3993000 A EP 1171772 A2 JP 2002540405 T WO 0057192 A2 | 09-10-2000 16-01-2002 26-11-2002 28-09-2000 |
| US 5313264 | A | 17-05-1994 | SE 462408 B AT 181423 T AT 100197 T DE 68912343 D1 DE 68912343 T2 DE 68929019 D1 DE 68929019 T2 EP 0534941 A1 EP 0442921 A1 JP 4504765 T JP 3064313 B2 JP 4501462 T JP 3294605 B2 SE 8804075 A WO 9005295 A1 WO 9005317 A1 US 5164589 A | 18-06-1990 15-07-1999 15-01-1994 24-02-1994 05-05-1994 22-07-1999 07-10-1999 07-04-1993 28-08-1991 20-08-1992 12-07-2000 12-03-1992 24-06-2002 10-11-1988 17-05-1990 17-05-1990 17-11-1992 |
| WO 02063349 | A | 15-08-2002 | JP 3429282 B2 JP 2002257732 A WO 02063349 A2 | 22-07-2003 11-09-2002 15-08-2002 |
| US 6326612 | B1 | 04-12-2001 | EP 0994339 A1 | 19-04-2000 |
| US 5917607 | A | 29-06-1999 | JP 9292332 A JP 9292333 A | 11-11-1997 11-11-1997 |
| WO 0186262 | A | 15-11-2001 | DE 10023363 C1 AU 7401001 A WO 0186262 A1 EP 1281062 A1 US 2003076501 A1 | 20-12-2001 20-11-2001 15-11-2001 05-02-2003 24-04-2003 |
| WO 9930135 | A | 17-06-1999 | AU 751280 B2 AU 1725999 A EP 1038167 A1 JP 3437170 B2 | 08-08-2002 28-06-1999 27-09-2000 18-08-2003 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL 02/01037

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| WO 9930135 | A | JP 2001526386 T | 18-12-2001 |
| | | JP 2003177089 A | 27-06-2003 |
| | | WO 9930135 A1 | 17-06-1999 |
| | | US 2003210399 A1 | 13-11-2003 |
| | | US 6600563 B1 | 29-07-2003 |
| WO 0022419 | A | 20-04-2000 | |
| | | DE 19814811 C1 | 05-08-1999 |
| | | WO 0022419 A1 | 20-04-2000 |
| | | EP 1068511 A1 | 17-01-2001 |
| | | US 6570657 B1 | 27-05-2003 |

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

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